

Application No. 10/687,289
Response dated January 27, 2006
Response to Office Action dated September 27, 2005

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A multi-modal medical device system that provides treatment therapy for a nervous system disorder, comprising:

an implantable component configured for multi-modal operation, that applies the treatment therapy and that is configured to support[[s]] a first ~~treatment therapy~~ mode of operation associated with the treatment therapy;

a first external component that shares data with the implantable component and that supports a second ~~treatment therapy~~ mode of operation associated with the treatment therapy in accordance with the data; and

a first communications channel that [[is]] optionally couples ~~coupled to~~ the implantable component and the external component, the data being transported over the communications channel,

wherein the implantable component is configured ~~multi-modal medical device system~~ ~~continues~~ to operate with the first treatment therapy mode of operation when the external component is decoupled from the communications channel and to operate with the second treatment therapy mode when the external component is coupled to the communications channel.

2. (Currently Amended) The multi-modal medical device system of claim 1, further comprising:

a programmer that directly communicates with the implantable component through the external component over the first communications channel in order to support a third treatment therapy mode of operation.

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3. (Currently Amended) The multi-modal medical device system of claim 1, further comprising:

a programmer that indirectly communicates with the implantable component through the first external component in order to support a third treatment therapy mode of operation.

4. (Original) The multi-modal medical device system of claim 1, wherein the first communications channel comprises a telemetry channel.

5. (Previously Presented) The multi-modal medical device system of claim 4, further comprising:

a relaying module that enhances a signal on the telemetry channel from the first external component to the implantable component.

6. (Previously Presented) The multi-modal medical device system of claim 1, wherein the implantable device comprises a memory that stores the data that is transported over the first communications channel.

7. (Currently Amended) The multi-modal medical device system of claim 1, wherein the first external component comprises an interface that couples to a triggering device and wherein an activation of the triggering device is indicative of a relevant event that affects at least one of the treatment therapy modes of operation.

8. (Original) The multi-modal medical device system of claim 1, wherein the first external component comprises an interface that couples to a second communications channel, and wherein the first external component sends messaging over the second communications channel that is indicative of at least a portion of the data.

9. (Currently Amended) The multi-modal medical device system of claim 1, wherein the first external component comprises:

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a module that supports another treatment therapy mode of operation when the first external component is coupled to the implantable component through the first communications channel, ~~the other feature being associated with the treatment therapy.~~

10. (Currently Amended) The multi-modal medical device system of claim 1, further comprising another external component that is coupled to the first external component, wherein the other external component comprises a module that supports another treatment therapy mode of operation when the other external component is coupled to the first external component and when the first external component is coupled to the implantable component, ~~the other mode of operation being associated with the treatment therapy.~~

11. (Currently Amended) A multi-modal medical device system that provides treatment therapy for a nervous system disorder, comprising:

an implantable component configured for multi-modal operation, that applies the treatment therapy and that supports a first treatment therapy mode of operation, ~~the first mode of operation being associated with the treatment therapy;~~

an external component that shares data with the implantable component, the external component comprising a first module that supports another treatment therapy mode of operation when the external component is coupled to the implantable component, ~~the other mode of operation being associated with the treatment therapy;~~ and

a communications channel that couples the implantable component with the external component, the data being transported over the communications channel,

wherein the implantable component is configured to operate with the first treatment therapy mode when the external component is decoupled from the communications channel and to operate with a different treatment therapy mode when the external component is coupled to the communications channel.

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12. (Currently Amended) The multi-modal medical device system of claim 11, wherein the external component further comprises an additional module that supports an additional treatment therapy mode of operation when the external component is coupled to the implantable component, and wherein different treatment therapy mode is either the another treatment therapy mode supported by the first module or the additional treatment therapy mode supported by the additional module.

13. (Currently Amended) A method for a treatment of a nervous system disorder with a medical device system with a medical device system, comprising:

(a) applying a treatment therapy to a patient for the nervous system disorder;

(b) supporting a first treatment therapy mode of operation with an implantable component configured for multi-modal operation, ~~the first mode of operation being associated with the treatment therapy;~~

(c) exchanging data between the implantable component and an external component; and

(d) if the external component and the implantable component are coupled, supporting a second treatment therapy mode of operation with the external component in accordance with the data, ~~the second mode of operation being associated with the treatment therapy.~~

14. (Currently Amended) The method of claim 13, further comprising:

(e) if the external component and the implantable component are decoupled, ~~continuing to operate~~ operating the medical device system with the first treatment therapy mode of operation.

15. (Currently Amended) The method of claim 13, wherein the first treatment therapy mode of operation corresponds to an open-loop treatment therapy and the second treatment therapy mode of operation corresponds to a closed-loop treatment therapy.

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16. (Currently Amended) The method of claim 13, wherein the data comprises neurological data, wherein the first treatment therapy mode of operation corresponds a basic loop recording capability, and wherein the second treatment therapy mode of operation corresponds to an enhanced loop recording capability.

17. (Previously Presented) The method of claim 16, wherein (b) comprises storing the neurological data by the implantable component, and wherein (d) comprises retrieving the neurological data from the implantable component and storing the neurological data by the external component.

18. (Previously Presented) The method of claim 16, wherein (b) comprises storing the neurological data by the implantable component, and wherein (d) comprises retrieving the neurological data from the implantable component and sending the neurological data to an external site by the external component.

19. (Original) The method of claim 18, wherein (d) further comprises:

communicating with a health care professional about the neurological data.

20. (Original) The method of claim 19, wherein the data further comprises location information, the location information being indicative of a location of the patient.

21. (Previously Presented) The method of claim 13, further comprising:

(e) determining if the implantable component and the external component are decoupled.

22. (Original) The method of claim 21, wherein (e) comprises:

(i) monitoring whether communications with the external component is maintained;

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(ii) if the communications has been disrupted for a predetermined time interval, presuming that the external component is decoupled.

23. (Currently Amended) The method of claim 13, further comprising

(e) if the external component and the implantable component are coupled, simultaneously supporting a third treatment therapy mode of operation and the second treatment therapy mode of operation with the external component in accordance with the data.

24. (Original) The method of claim 13, wherein the medical device system comprises a hybrid system.

25. (Original) The method of claim 13, wherein the medical device system comprises an external system.

26. (Original) The method of claim 13, wherein the nervous system disorder is selected from the group consisting of a disorder of a central nervous system, a disorder of a peripheral nervous system, a mental health disorder, and a psychiatric disorder.

27. (Original) The method of claim 26, wherein the nervous system disorder is selected from the group consisting of epilepsy, Parkinson's disease, essential tremor, dystonia, multiple sclerosis (MS), anxiety, a mood disorder, a sleep disorder, obesity, and anorexia.

28. (Original) The method of claim 13, wherein the treatment therapy is selected from the group consisting of electrical stimulation, magnetic stimulation, drug infusion, and brain temperature control.

29. (Original) The method of claim 13, wherein the treatment therapy is provided to a location of a body selected from the group consisting of a brain, a vagal nerve, a spinal cord, and a peripheral nerve.

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30. (Currently Amended) The method of claim 13, wherein the first treatment therapy mode of operation corresponds to an open-loop treatment therapy and wherein the second treatment therapy mode of operation corresponds to an incremental treatment therapy.

31. (Previously Presented) The method of claim 30, wherein the data comprises neurological data, the method further comprising:

(e) monitoring the neurological data

(f) triggering a delivery of the incremental treatment therapy in response to (e).

32. (Original) The method of claim 30, wherein the incremental treatment therapy comprises

an application of a pharmaceutical agent.

33. (Original) The method of claim 32, wherein the incremental treatment therapy further comprises an application of electrical stimulation.

34. (Currently Amended) The method of claim 13, wherein the data comprises neurological data and wherein the second treatment therapy mode of operation supports an alarm in response to the neurological data, the neurological data being indicative of an impending medical condition.

35. (Currently Amended) The method of claim 13, wherein the second treatment therapy mode of operation enhances a functionality, the functionality being supported by the first treatment therapy mode of operation.

36. (Currently Amended) The method of claim 13, wherein the second treatment therapy mode of operation supports another functionality than a first functionality that is supported by the first treatment therapy mode of operation.

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37. (Previously Presented) A method for a treatment of a nervous system disorder with a medical device system with a medical device system, comprising:

- (a) applying a treatment therapy to a patient for the nervous system disorder;
- (b) supporting an open-loop mode of the treatment therapy with an implantable component configured for multi-modal operation;
- (c) exchanging neurological data between the implantable component and an external component;
- (d) if the external component and the implantable component are coupled, supporting a closed-loop mode with the external component in accordance with the neurological data; and
- (e) if the external component and the implantable component are decoupled, continuing to operate the medical device system with the open-loop mode of the treatment therapy.